

$^{15}\text{N}(^3\text{He},\text{p})$ **1972Le01**

1972Le01: The $^{15}\text{N}(^3\text{He},\text{p})$ double-stripping reaction was studied using a $E(^3\text{He})=18$ MeV beam from the Saclay EN tandem Van de Graaff to bombard a 25 ± 3 $\mu\text{g}/\text{cm}^2$ 99% enriched ^{15}N target. The emitted protons were momentum analyzed using a magnetic spectrograph with an energy resolution of ≈ 30 keV. Differential cross sections for transitions to ^{17}O states up to $E_x=11$ MeV were measured. The data were analyzed using DWBA analysis and the L values were also deduced.

1975Ha33: $^{15}\text{N}(^3\text{He},\text{p})$, $E=15$ MeV; measured $\sigma(\text{Ep},\theta)$.

See also (**1965Se01**,**1963Pa01**,**1970LeZT**,**1971SeZZ**,**1974AbZZ**).

 ^{17}O Levels

E(level) [†]	J^π [†]	Γ	L	Comments
0	$5/2^+$		(1+3)	E(level): See also (1975Ha33).
874	$1/2^+$		1	
3053 <i>10</i>	$1/2^-$		0	E(level): See also 3.055-MeV (1975Ha33).
3845 <i>10</i>	$5/2^-$		2	
4549 <i>10</i>	$3/2^-$		0	
5081 <i>10</i>	$3/2^+$		(1)	
5215 <i>10</i>	$(9/2^-)^{\ddagger}$		(4)	
5381 <i>10</i>	$3/2^-$		0	
5698 <i>10</i>	$7/2^-$		2	
5873 <i>10</i>	$3/2^+$		(1)	
5938 <i>10</i>	$1/2^-$		0	
6370 <i>10</i>	$1/2^+$			
6861 <i>10</i>	$(1/2^-)^{\ddagger}$		(0)	
6973 <i>10</i>	$(5/2^+)^{\ddagger}$		(1+3)	
7162 <i>10</i>	$5/2^-$		2	
7382 <i>10</i>	$5/2^-$		2	
7561 <i>10</i>	$(7/2^+)^{\ddagger}$			
7687 <i>10</i>	$7/2^-$			
7761 <i>10</i>	$(11/2^-)^{\ddagger}$		4	J^π : See also (1969Lu07 : $^{15}\text{N}(\alpha,\text{d})$).
7938 <i>10</i>	$1/2^-$			
8054 <i>10</i>	$3/2^+$		(1)	
8192 <i>10</i>	$3/2^-$		0	
8322 <i>10</i>	$1/2^+$			
8390 <i>10</i>	$5/2^+$			
8492 <i>10</i>	$5/2^-$		(2)	
8682 <i>10</i>	$3/2^-$			
8900 <i>10</i>	$7/2^-$			
8955 <i>10</i>	$7/2^-$			
9160 <i>10</i>	$(9/2^-)$		(4)	J^π : See also (1969Lu07 : $^{15}\text{N}(\alpha,\text{d})$).
9495 <i>10</i>	$5/2^-$			
9712 <i>10</i>	$7/2^+$			
9856 <i>10</i>	$9/2^+$			
10240? <i>10</i>	$7/2^+$			
10330 <i>10</i>	$(7/2^-)$			
10570 <i>10</i>	$(5/2,7/2)$			
10693 <i>10</i>	$(7/2^+)$			
10782 <i>10</i>	$(5/2)$			
10913 <i>10</i>				
11032 <i>4</i>				$T=1/2$ (1970Mc02)
				E(level): See also 11.02-MeV (1970Mc02).
11075 <i>4</i>	$1/2^-$	5 keV <i>I</i>		$T=3/2$ (1972Le01)
				E(level): See also 11.075 MeV 5 (Barnes et al., Proc. Intern. Conf. on Nucl. Phys., Gatlinburg, Tennessee, 12-17 Sept. 1966 (Academic, New York, 1967) p.884: $^{15}\text{N}(^3\text{He},\text{p})$).
				J^π, T : See also (1973Ad02).
				Γ : A variety of widths and branching ratios from (1973Ad02) became associated with this reaction and level, but the width $\Gamma=5$ keV <i>I</i> from McDonald et al.,

Continued on next page (footnotes at end of table)

 $^{15}\text{N}(^3\text{He},\text{p})$ [1972Le01](#) (continued)

 ^{17}O Levels (continued)

<u>E(level)[†]</u>	<u>J^π[†]</u>	<u>Γ</u>	<u>L</u>	Comments
Bull. Amer. Phys. Soc. 16, 489 (1971) is from $^{13}\text{C}(\alpha,\text{n})$ and later published in (1966Mc11). The branching ratios and partial widths from (1973Ad02) are discussed in $^{18}\text{O}(^3\text{He},\alpha)$.				

[†] From ([1972Le01](#)). Uncertainty of energy level is $\pm\varepsilon$ with $\varepsilon\leq 10$ keV except where listed otherwise.

[‡] Speculative, not directly measured value.